㊾ **Product appearance inspection methods and apparatus employing low variance filter.**

㊼ Images such as product (12) images (I) are identified as substantially similar to one or more reference images by finding pixels (341a, A) which have substantially the same value or values in all or substantially all of the reference images. Image erosion (341a', 129c) and/or dilation (109c, 129e, 504) may be used in processing the reference image data to help identify pixels which can always be expected to have the same value in all acceptable images. The values associated with the corresponding pixels in a product image are combined (407, P_A) and compared (409) to an expected value (T_A). The product image is identified (412) as substantially similar to the reference image or images only if the combined values from the product image compare favorably with the expected value.

F I G. 1
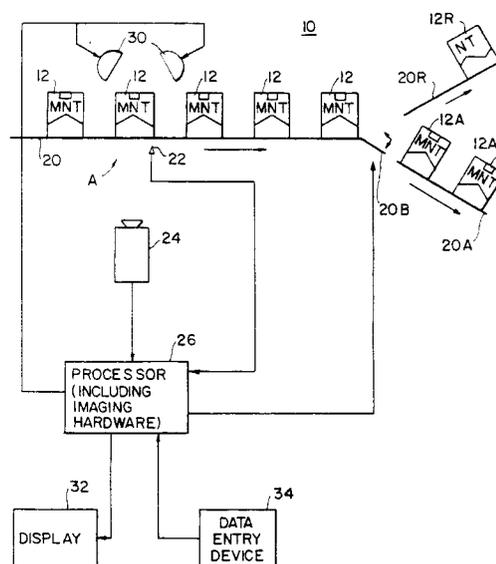
EP 0 527 546 A3

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
E	EP-A-0 519 595 (PHILIP MORRIS) * column 4, line 5 - line 32 * * column 5, line 36 - column 6, line 2 * * figures 1,2A * ---	1,5-7, 13-17	G06F15/70 G06K9/62
X	WO-A-89 03099 (IMAGE-PACK LTD) * page 7, line 2 - line 10 * * page 11, line 35 - page 12, line 25 * * figures 4,5,7 * ---	1,13	
A	US-A-4 259 661 (TODD) * abstract; figures 1,2 * ---	1,5,6, 13-19	
A	EP-A-0 346 985 (PHILIPS ELECTRONIC) * abstract; figures 2,5 * ---	1	
D,A	HANDBOOK OF PATTERN RECOGNITION AND IMAGE PROCESSING, 1986, YOUNG,FU (EDS), ACADEMIC PRESS, SAN DIEGO US pages 262 - 264 HARALICK 'Statistical Image Texture Analysis' * the whole document * -----	2-4	

TECHNICAL FIELDS SEARCHED (Int.Cl.5)

G06K
G06F
H04N
G01N
B07C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	5 October 1994	Jonsson, P.O.